

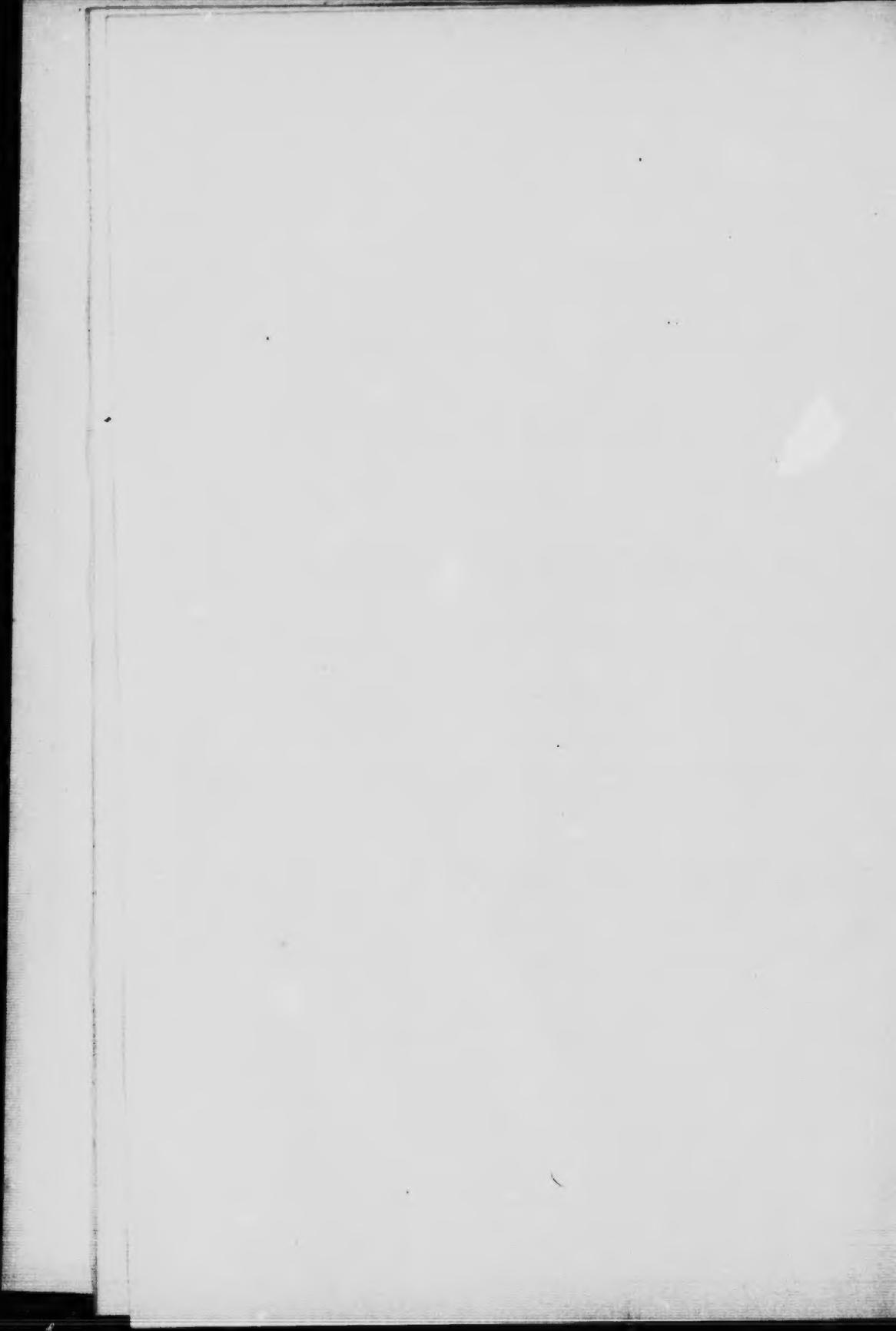
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LABORATORY
OF THE
INLAND REVENUE DEPARTMENT
OTTAWA, CANADA.

1901.

BULLETIN No. 76.

CANNED SALMON.



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CANNED SALMON.

OTTAWA, July 2, 1901.

W. J. GERALD, Esq.,
Deputy Minister of Inland Revenue.

SIR.—On March 13, 1900, I addressed a report to the Commissioner on the subject of canned goods, which was not published at the time. I would respectfully suggest that its contents, repeated in this report, should now be made public, and at the same time the particulars given concerning a collection of samples of canned salmon since made.

In December, 1899, a circular was, with the Commissioner's approval, issued to almost all the physicians of the Dominion, accompanied by a schedule, in which these gentlemen were requested to state their experience as regards the use of canned goods. The circular and schedule in question are here transcribed:—

DEPARTMENT OF INLAND REVENUE,
OTTAWA, November 18, 1899.

DEAR SIR,—The attention of this department has been called to the frequency with which illness, attributed to the use of canned or tinned foods, is noted in the various daily and weekly newspapers of Canada.

The use of such foods is on the increase, and it is very desirable that the facts as to this matter should be known so that necessary steps may be taken to safeguard the health of consumers.

To this end copies of this circular and schedule are being sent to the medical men of Canada. Will you kindly give them your best attention, and make the returns as carefully as your time will permit, so that the statistics obtained may be full and satisfactory. I shall be much obliged by your returning the schedule not later than the end of the present year, using the accompanying envelope so as to avoid outlay for postage.

Yours truly,

E. MIALL,
Commissioner.

SCHEDULE.

To Dr.

1. Have any cases of illness, apparently attributable to the uses of tinned foods, come under your notice within recent years?
-
2. Please state the number of such cases, and the period of your observation.
.....
..... years.
3. How many have terminated fatally?
.....
4. Have you judged the symptoms to point to metallic or to ptomaine poisoning?
.....
5. If the latter, was the defect owing to imperfect sealing of the tins, or to slight change or decomposition in the contents on account of age?
.....
6. Have you any suggestions to make with a view to bettering existing conditions as regard tinned foodstuffs?
.....

(Signature).
.....Date.....
.....

The number of circulars and schedules sent out to the medical men of the different provinces of the Dominion was 4,348. Of these 263 were returned from the Dead Letter office as not called for, &c. To the latter number must be added thirty schedules returned blank, owing to the death or removal of the parties to whom they were addressed, or for other reasons, and two from the United States. The total number received of schedules which were properly filled up was 1,313. Adding these to the 295 just mentioned, and deducting them from the total number of circulars issued, it appears that 2,740 of the latter were sent out to which no answer of any kind was returned.

The principal question in the schedule which was answered either affirmatively or negatively was as follows: 'Have any cases of illness, apparently attributable to the use of tinned foods, come under your notice within recent years?' Classified according to the answers given to this question and by provinces, the 1,313 schedules above mentioned as having been filled up, show as follows:

From	'Yes.'	'No.'	Total.
Prince Edward Island.....	5	13	18
Nova Scotia.....	27	77	104
New Brunswick.....	10	74	84
Quebec.....	66	322	388
Ontario.....	112	466	578
Manitoba.....	15	38	53
North-west Territories.....	9	9	18
British Columbia.....	10	60	70
	254	1,059	1,313

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Of the total number of replies received, 19·3 per cent were therefore in the affirmative.

With reference to the negative replies, it has to be reported that the great majority of the physicians give these without comment. Some add remarks indicating scepticism as regards the prevalence of the cases of illness in question, and others state that nothing of the kind has come under their notice, although canned goods are very generally used in their districts. On the other hand, many evidently believe in the occurrence of such cases outside of their own experience, because they account for the absence of cases by the fact that tinned foods are not generally used in their neighbourhood, or that they discourage their use, and a great many offer suggestions (in response to query No. 6) as to the precautions to be used in the packing, storing and use of such articles. Among these suggestions, the following may be mentioned :—

1. The factories and the foodstuffs to be canned should be subject to inspection so as to ensure cleanliness in the former and good condition of the latter. The use of muricate of tin, chloride of zinc or acid should not be permitted in soldering. After sealing, the tins should be inspected.
2. Imported canned goods should also be subject to inspection.
3. Vessels of glass or earthenware should be used instead of tins or cans.
4. The date of filling and the name of the factory and its proprietor should be stamped on the tin itself.
5. Printed warning should be given on the label of each tin against allowing any of the contents to remain in it after opening and against using the contents if it has any unusual taste or smell, or the can shows any other indications of decomposition. These indications should be described on the label. The purchasers should also be advised to have the contents used up within 24 hours after opening.
6. The sale of canned goods should be prohibited after a certain lapse of time from the date of their manufacture. The periods suggested vary from six months to two years.
7. Canned goods should be kept in cold storage and never stored on grocer's shelves or exposed to the sun's rays or any high temperature. Such treatment of canned goods should be prohibited by law.

It is necessary to note that, among these negative answers, there are to be found very decided statements that the writer has never met with any cases of illness from the use of canned goods during a very long period of practice. There are also warnings against embarrassing the canned goods manufacturers with foolish restrictions, and remarks to the effect that the industry itself is of the greatest importance to the country, and an immense boon and advantage to the consumer. The canning system is said on the whole to be excellent, and to be constantly improving.

Referring now to the affirmative replies, it must be said that the figures and details which they contain do not lend themselves to exact classification. In stating the number of cases, it is often done indefinitely, and sometimes the words, 'several' and 'a few' are used. Quite frequently no number at all is stated, no notes or record having been kept. The number of cases actually given amounts to 970 for the whole Dominion. The 'period of observation' sometimes means the whole time during which the physician has been practising, and in many other cases it extends back only a year or two. The average period I find to be seven years. The number of cases of disease ap-

parently attributable to the use of tinned goods would therefore average about 138 per annum in the whole of Canada.

The total number of cases which terminated fatally amounted to 15 in the above mentioned average period.

In reply to query No. 4, the answers are also indefinite, but interpreting them reasonably, about 70 p.c. of the cases are attributed to ptomaine and 30 p.c. to metallic poisoning. As to the cause of the poisoning a great many of the medical men are candid enough to say that they don't know. On the other hand numerous opinions have been expressed and among the causes to which the illnesses have been attributed the following are mentioned in the order of frequency:—I. The contents of the tin are said to have been too old. II. The contents were exposed too much to air after opening, and without being transferred to another vessel. III. Imperfect exclusion of air previous to opening. IV. Unsound character or inferior quality when originally packed.

In response to query No. 6, the suggestions made are of the same nature as recorded above in connection with the negative answers, and the following are given in addition:—

8. Screws should be used in securing the boxes in which the tins are packed as ordinary nails sometimes happen to be driven through the tins causing access of air.

9. Vessels of porcelain or 'fibre' are suggested as substitutes for tin plate, also wood with an impervious coating.

As regards the conclusions which might be drawn from the inquiry, there appeared to be a unanimity of opinion, among the majority of the physicians who made returns, that the time of filling (month and year) and name of the manufacturer or canning factory should be stamped on the tins, and that this should be secured by legal enactment.

A few months after the foregoing report was made some statements appeared in a Canadian newspaper to the effect that canned salmon of bad quality was not unfrequently offered for sale in our markets. The attention of the department was specially called to these statements, which were in the form of editorial articles, and in consequence a collection of samples of canned salmon was ordered to be made in June of last year, and submitted to the district analysts. The subjoined tabular statement shows the results of their examination. In all 100 samples were collected over a wide extent of country and in the following places:—

	No. of Sampl-s.		No. of Sampl-s.
Halifax, N.S.	8	Ottawa.....	10
St. John, N.B.	8	Toronto.....	4
Quebec.....	4	St. Catharines, Ont.	4
Montreal.....	5	Clinton, Ont.	2
Three Rivers.....	3	Goderich, Ont.	2
Drummondville.....	2	Hensall, Ont.	2
St. Anne de Beaupré.....	2	Exeter, Ont.	2
Richmond, P.Q.	3	London, Ont.	2
Granby, P.Q.	4	Winnipeg, Man.	12
Hull, P.Q.	2	Vancouver, B.C.	11
Farnham, P.Q.	2	New Westminster, B.C.	1
Aylmer, P.Q.	2	Total.....	100
St. Hyacinthe, P.Q.	3		

It will be observed from the table that traces of metallic contamination were found in about one-half the number of samples. These traces do not, however, indicate anything to which exception can be taken, and even in the cases where 0.0009 p. c. and 0.0012 of lead

were detected it is doubtful whether such very small quantities are injurious to the consumer. This matter has been discussed in part 8 of Bulletin No. 13, U.S. Department of Agriculture, but no conclusions seem yet to have been reached regarding the limits to be recommended as allowable in cases of metallic contamination. In 1892 the Italian Government amended the food law of that country so that amounts of copper not exceeding 100 miligrammes per kilo. are to be allowed in green preserved vegetables. This means 100 parts per million, while the quantities above mentioned of lead are only 9 and 12 parts per million, respectively.

No addition of preservatives was discovered in any of the samples. The table also shows that not one of them has been challenged as unsound, unfit for food or calculated to be injurious to the consumer. Only three samples are mentioned as having an objectionable odour, one of these being very bad and two samples are characterized as stale. Thus only 5 per cent at most of the samples collected were found to be in any degree doubtful so far as quality is concerned. On the whole, the examination shows that there is nothing in the canned salmon trade to justify the newspaper articles above referred to.

I beg to recommend the publication of this report.

I have the honour to be, sir,

Your obedient servant,

THOMAS MACFARLANE,

Chief Analyst.

STATEMENT of the Results of Examining

No. of Sample.	Date of Collection.	Quantity Purchased.	Cost.	Name or Brand.	NAME AND ADDRESS OF	
					Vendor.	Packer as shown on Label.
	1900.	8 cta.	Official Analyst, M. Bowman, Halifax, N.S.	Halifax, N.S.		
16780	June 26..	3 cans..	0 36	Fresh Fraser River.	J. P. Buckley, Lower Water St.	
16781	" 26..	" ..	0 45	'Victory'	F. Fleming, Pleasant St.	McPherson & Hickey, Vancouver.
16782	" 26..	" ..	0 36	'Drysdale'	R. F. Forrestall, Bir- mingham St.	Canoe Pass Canning Co., Fraser River, B.C.
16783	" 26..	" ..	0 45	'Drysdale'	V. Grant, Rottenburg St.	" ..
16784	" 26..	" ..	0 38	'Viceroy'	R. Urquhart & Son, Spring Garden Rd.	B.C. Canning Co., Victoria
16785	" 26..	" ..	0 45	'Skeena River'	W. J. Hopgood, Spring Garden Rd.	Skeena River Packing Co., Victoria, B.C.
16786	" 26..	" ..	0 45	'Laurel'	" " "	Anglo B. C. Packing Co., Victoria.
16787	" 26..	" ..	0 36	'Corn Flower'	Crockett & Co.	" ..
						St. John, N.B.
17716	" 19..	" ..	0 36	'Capital'	W. F. Hatheway, 17 South Wharf.	Victoria Canning Co., B.C.
17717	" 19..	" ..	0 36	'Arbutus'	Northrup & Co., 23 South Wharf.	" ..
17718	" 19..	" ..	0 34	'Royal Club'	Merritt Bros., Ward St.	B. C. Canning Co.
17719	" 19..	" ..	0 60	'Golden Crown'	Baird & Peters, 16 Ward St.	W. S. Loggie & Co., Chat- ham, N.B.
17720	" 20..	" ..	0 30	'Brand E'	G. S. De Forest & Sons, 9 North Wharf.	West Coast Fishing and Trading Co., B.C.
17721	" 20..	" ..	0 45	'Sterling'	Bowman & Angevine, 28 Water St.	Lowe Inlet Packing Co., Victoria, B.C.
17722	" 20..	" ..	0 35	'Chieftain'	Gilbert Bent & Son, 5 South Wharf.	English Packing Co., B.C.
17723	" 20..	" ..	0 40	'Queen'	G. M. & A. A. Barker, 100 Princess St.	British American Packing Co., B.C.
				Official Analyst, Dr. M. Fiset, Quebec.	Drummondville, Que.	
19936	" 22..	" ..	0 36	'Warrior'	D. Hebert	Pacific Packing Co.
19937	" 22..	" ..	0 45	'Laurel Wreath'	J. N. Turcott	Anglo B. C. Packing Co., Ltd. Montreal.
19938	" 22..	" ..	0 45	'Horse Shoe'	Jos. Beauchamp, 149 Vitre St.	Richmond Canning Co., Victoria, B.C.
19939	" 22..	" ..	0 30	'Ocean'	" " ..	Malcolm & Windsor, Ste- veston, B.C.
					Three Rivers, Que.	
19940	" 25..	" ..	0 38	'Sunflower'	Duval & Belfeuille, 41 Desforges St.	North Coast Packing Co..
19941	" 25..	" ..	0 38	'C' in 	U. Carignan, 134 Des- forges St.	Harlock Packing Co.
19942	" 25..	" ..	0 38	" ..	O. Carignan et fils, 148 Desforges St.	Skeena Packing Co.

100 samples of Canned Salmon.

RESULTS OF ANALYSIS.						Condition of Fish and Colour, &c.	No. of Sample.	Official Analysts Remarks
Metallic Contamination.			Preservatives.					
Copper.	Lead.	Tin.	Iron.	Borax.	Salicylic Acid.			
None				None		Pale in colour but sound; tin bright except a few dark spots.	16780	Unadulterated.
"				"		Pale in colour but sound; tin very slightly blacken'd	16781	"
"				"		Fish good; tin bright with a few dark spots.	16782	"
"				"		Fish good; tin showed a few dark spots.	16783	"
"				"		"	16784	"
"				"		Fish good; tin bright except slight blacken'g on bottom	16785	"
"				"		Fish good; tin bright.....	16786	"
"				"		Fish good; tin slightly darkened on one side.	16787	"
"				"		Fish good; tin bright except a few dark spots.	17716	"
"				"		Fish good; tin blackened on one side.	17717	"
"				"		Fish good; tin bright, no spots.	17718	"
"				"		Fish good; tin bright except slight blacken'g near seam	17719	"
"				"		Fish good; tin bright except a few dark spots.	17720	"
"				"		Fish good; a very few spots on tin.	17721	"
"				"		"	17722	"
"				"		Fish sound but rather soft; Tin slightly blackened on bottom.	17723	"
"	None	Trace		"		Taste and smell good, colour rather pale, sound and pretty firm.	19030	Genuine.
"	Present	Present		"		Taste and smell good, sound and firm, colour very pink.	19037	"
Trace		"		"		Taste and smell good, sound and firm.	19038	"
	Present	"		"		Peculiar smell, very pale in colour, not very well preserved.	19039	"
Traces	"	"		"		Taste and smell good, pale in colour, sound and pretty firm.	19040	"
None	None	"		"		Taste, smell and colour good, sound and firm.	19041	"
Trace	Present	"		"		"	19042	"

STATEMENT of the Results of Examining

No. of Sample.	Date of Collection.	Quantity Purchased.	Cost.	Name or Brand.	NAME AND ADDRESS OF	
					Vendor.	Packer as shown on Label
	1900.		8 cts.	Official Analyst, Dr. M. Fiset, Quebec.	Ste. Anne de Beaupré.	
19943	June 26..	3 tins...	0 45	'Sovereign'	E. Forest & Co., Main St.	Anglo B. C. Packing Co..
19944	" 26..	" ..	0 45	'Eaglé'	Louis Morel, Main St..	Victoria Packing Co....
					Quebec.	
19945	" 26..	" ..	0 35	'Tulip'	S. P. Brosseau, 320 St.	Anglo B. C. Packing Co..
					Paul St.	
19946	" 26..	" ..	0 45	'Red Cohoe'	L. T. Demers, Champlain Market.	Thos. Earle, Victoria, B.C.
19947	" 26..	" ..	0 39	'Viceroy'	A. Convey, 97 Saint Matelet.	B. C. Canning Co.....
19948	" 26..	" ..	0 45	'Capital'	C. Lavoie, 155 Bridge St.	Victoria Canning Co....
						Richmond, Que.
19949	" 27..	" ..	0 45	'Queen'	K. McRae, Main St..	British American Packing Co.
19950	" 27..	" ..	0 45	'Queen Charlotte' ..	Desmarais Bros., Main St.	B. C. Canning Co.....
19951	" 27..	" ..	0 38	'Blue Jacket'	Jas. Pilgrim.....	English Bay Canning Co..
				Official Analyst, Dr. F. X. Valade, Ottawa.	Ottawa.	
20711	" 20..	2 "	0 30	'Queen Charlotte' ..	C. Moreland, Sparks St	B. C. Canning Co., Victoria, B.C.
20712	" 20..	" ..	0 30	Brand 'E'	" " ..	West Coast, B.C., Fishing and Trading Co.
20713	" 20..	" ..	0 30	'Clover Leaf'	Larose & Co., Sussex St	Packed at Lulu Island, B.C.
20714	" 20..	" ..	0 20	'Ocean'	G. Marineau, 64 Murray St.	Malcolm & Windsor, Steveston, B.C.
20715	" 21..	" ..	0 24	'Red Clover'	J. Boyden & Son, Sussex St.	Anglo B. C. Packing Co., Vancouver.
20716	" 21..	" ..	0 25	'Triangle'	H. Cussans, 115 George St.	B. C. Canning Co., Victoria, B.C.
20717	" 21..	" ..	0 30	'Laurel Wreath' ..	Larose & Co., Sussex St	Anglo B. C. Canning Co., Vancouver.
20718	" 21..	" ..	0 25	Brand 'C'	Kennedy & Co., Wellington St.	Skeena Packing Co., B.C.
20719	" 21..	" ..	0 30	'Lynx'	Goodall Bros., Wellington St.	Anglo B. C. Packing Co.
20720	" 21..	" ..	0 25	'Corn Flower'	A. McKenzie, O'Connor St.	

100 Samples of Canned Salmon—Continued.

RESULTS OF ANALYSIS.						Condition of Fish and Colour, &c.	No. of Sample.	Official Analyst's Remarks.
Metallic Contamination.								
Copper.	Lead.	Tin.	Iron.	Borax.	Salicylic Acid.			
.....	Trace.	Present.	Present.	.....	None.	Taste, smell and colour good, sound and firm.	19943	Genuine.
.....	"	"	"	.....	"	"	19944	"
.....	"	"	"	.....	"	Taste and smell good, colour pale, sound and pretty firm.	19945	"
.....	"	"	"	.....	"	Taste, smell and colour good, sound and firm.	19946	"
.....	=0.0009 p. o.	"	"	.....	"	"	19947	Contaminated with lead.
.....	"	"	"	.....	"	"	19948	Genuine.
.....	Trace.	"	"	.....	"	"	19949	Doubtful.
.....	"	"	"	.....	"	"	19950	Genuine.
.....	=0.0012 p. o.	"	"	.....	"	Taste and smell only fair, colour rather pale, pretty firm.	19951	Contaminated with lead.
Co., Vic-	None.	None.	None.	.....	None.	Flesh firm, good colour, odour and taste; tin has a few dark spots.	20711	Good.
, Fishing	"	Doubt- ful trace.	"	.....	"	Flesh rather pale, but good odour and taste; tin clean.	20712	"
Island,	"	None.	"	.....	"	Colour, odour and taste very good; flesh firm; tin clean.	20713	"
Windsor,	"	"	Faint trace.	.....	"	Strong metallic odour when opened, flesh soft and dirty white, most likely been long in the tin, does not taste badly.	20714	Stale, but not bad.
ing Co.,	"	"	"	.....	"	Flesh gray but firm and sweet; tin in good condition.	20715	Good.
Co., Vic-	"	"	None.	.....	"	Very fine in colour, odour and taste; tin very slightly spotted.	20716	Very good.
ing Co.,	"	"	Faint trace.	.....	"	Colour, odour and taste very good; tin has a few dark spots.	20717	Good.
Co., B.C.	"	"	None.	.....	"	"	20718	"
ing Co.	"	"	"	.....	"	"	20719	"
.....	"	"	"	.....	"	Colour, odour and taste very good; tin clean.	20720	"

STATEMENT of the Results of Examining

No. of Samples	Date of Collection.	Quantity Purchased.	Cost.	Name or Brand.	NAME AND ADDRESS OF	
					Vendor.	Packer as shown on Label.
1900.		8 cts.	Official Analyst Dr. F. X. Valade, Ottawa	Granby, P.Q.		
19932	June 21	3 cans.	0 45	'Queen'	H. Paré	British American Packing Co.
19933	" 21	" ..	0 45	'Queen Charlotte' ..	Hade Bros	B. C. Canning Co .. .
19934	" 21	" ..	0 38	'Sunflower'	N. Mitchell	North Coast Packing Co.
19935	" 21	" ..	0 54	'Red Clover' .. .	D. Hebert, Drummondville.	Anglo, B.C., Packing Co.
			Official Analyst, Dr. W. H. Ellis, Toronto.	Toronto.		
20721	" 30	2 tins	0 30	" 'Horseshoe' .. .	T. Reed, 802 Yonge st.	Richmond Canning Co., Victoria, B.C.
20722	" 30	" ..	0 25	'Globe'	" " ..	Globe Canning Co., Claxton, B.C.
20723	" 30	" ..	0 25	'Cariboo'	M. Moyer & Son, 100 Queen St. W.	Steveston Canning Co., B.C.
20724	" 30	" ..	0 26	'Flagship'	J. A. Johnson, 775 Yonge St.	R. Ward & Co., Victoria, B.C.
					Hull, P.Q.	
20725	July 3	" ..	0 21	'Faust' .. .	J. Bertrand	Anglo B. C. Packing Co.
20726	" 3	" ..	0 26	'Red Clover' .. .	Deechamps & Carriere ..	" "
					Aylmer, P.Q.	
20727	" 3	" ..	0 25	'Queen Charlotte' ..	S. Lochnan .. .	B. C. Canning Co..
20728	" 3	" ..	0 30	'Empress'	C. Devlin .. .	Lulu Is. and Packing Co., Vancouver.
					St. Catharines, Ont.	
20729	June 30	" ..	0 25	'Viking' .. .	Mrs. McLean	Clayoquot Fishing and Trading Co., Victoria.
20730	" 30	" ..	0 25	" .. .	Moore & Pakman .. .	Lowe Inlet Packing Co., B.C.
20731	" 30	" ..	0 25	'Viking' .. .	" .. .	Clayoquot Fishing and Trading Co., Victoria.
20732	" 30	" ..	0 25	'Victory' .. .	A. Wilson .. .	McPherson & Hickey, B.C.
					Montreal.	
19928	" 19	3 "	0 30	'Nansen' .. .	L. P. Forrest, 1978 St. Catherine St.	B. C. Packing Co., Vancouver.
19929	" 19	" ..	0 35	'Drysdale' .. .	S. Cardinal, 2307 Notre Dame St.	Canoe Pass Canning Co., B.C.
					Farnham, P.Q.	
19930	" 19	" ..	0 30	'White Salmon' .. .	C. L. Elme, Main St..	B. C. Packing Co. New Westminster.
19931	" 19	" ..	0 35	'S. & S' .. .	" " ..	Imperial Canning Co., Victoria.

100 Samples of Canned Salmon—Continued.

RESULTS OF ANALYSIS.						Condition of Fish and Colour, &c.	No. of Sample.	Official Analyst's Remarks.
Metallic Contamination.				Preservatives.				
Copper.	Lead.	Tin.	Iron.	Borax.	Salicylic Acid.			
None.	None.	None.	.....	None.	None.	In good condition, flesh firm; tin slightly brown in patches.	19932	Good.
"	"	Faint trace.	.....	"	"	Good in colour, odour and taste, flesh firm; tin clean.	19933	"
"	Doubtful trace.	"	.....	"	"	Flesh soft and gray but odour and taste good; tin clean.	19934	"
"	"	None.	.....	"	"	Flesh firm, good colour odour and taste; tin a little corroded.	19935	"
None.				None.	Red, firm, and in good condition.		20721	Unadulterated.
"				"	"		20722	"
"				"	"		20723	"
Slight trace of metallic contamination.				"	"		20724	"
None.				"	"		20725	"
"				"	"		20726	"
Slight trace of metallic contamination.				"	"		20727	"
Trace of metallic contamination.				"	Red, soft, good condition.		20728	"
"				"	Red, firm, good condition.		20730	"
"				"	"		20731	"
Slight trace of metallic contamination.				"	Light red, soft, good condition.		20732	"
None.				"	Yellowish white, firm, and in good condition.		19928	"
"				"	Red, firm, good condition.		19929	"
Traces.				None.	Yellowish white, firm, and in good condition.		19930	"
"				"	Red, firm, good condition.		19931	"

STATEMENT of the Results of Examining

No. of Sample.	Date of Collection.	Quantity Purchased.	Cost.	Name or Brand.	NAME AND ADDRESS OF	
					Vendor.	Packer as shown on Label.
	1900.		\$ cts.	<i>Official Analyst, F. T. Harrison, London.</i>	Clinton, Ont.	
19361	June 19..	2 tins..	0 25	'Royal Club'.....	Harrison Wilse.....	B C. Canning Co., Victoria
19362	" 19..	" ..	0 25	'O. Wee, Kay, No'	F. Melville.....	" "
						<i>Goderich, Ont.</i>
19363	" 19..	" ..	0 25	.....	T. G. Tippling.....	Lowe Inlet Pkg. Co., B.C.
19364	" 19..	" ..	0 25	'Queen Charlotte'	O. C. Whitely.....	B. C. Canning Co.....
						<i>Hensal, Ont.</i>
19365	" 20..	" ..	0 25	'Golden Net'	E. Rannie.....	" "
19366	" 20..	" ..	0 25	'Viceroy'	" ..	" "
						<i>Exeter, Ont.</i>
19367	" 20..	" ..	0 25	'Triangle'	Farmer Bros.....	Windsor Canning Co., B.C
19368	" 20..	" ..	0 30	'Clover Leaf'	J. A. Sheward.....	Packed at Lulu Island, B. C.
						<i>London, Ont.</i>
19369	" 21..	" ..	0 20	'Favorite'	Turville & Nicholas, 125 Dundas St.	Namu Cannery, B.C.....
19370	" 21..	" ..	0 20	'Southern Cross'	Mrs. George, 58 Dundas St.	" ..
						<i>St. Hyacinthe, P.Q.</i>
19924	" 18..	3 " ..	0 45	'Clover Leaf'	S. Bourgeois & Co.....	Packed at Lulu Island, B. C.
19925	" 18..	" ..	0 30	L.C.F.C. in circle	O. Brodeur.....	
19926	" 18..	" ..	0 36	'Lynx'	T. G. Bourgeois.....	Anglo British Pkg. Co., B. C.
						<i>Montreal.</i>
19927	" 19..	" ..	0 36	'Excelsior'	L. P. Forrest, 1978 St. <i>Official Analyst, E. B. Kenrick, Winnipeg.</i>	Excelsior Pkg. Co., Led- ner's Landing, B.C.
						<i>Winnipeg.</i>
17245	" 20..	3 cans..	0 25	'Ocean'	Kenneth Mackenzie & Co.	Malcolm & Windsor, Steveston, B.C.
17246	" 20..	" ..	0 35	'Neptune'	" "	Skeena River Pkg. Co., Victoria, B.C.
17247	" 20..	" ..	0 40	'Capital'	" "	Victoria Canning Co.....
17248	" 20..	" ..	0 35	'Red Rose'	" "	R. Ward & Co., Victoria, B.C.
17249	" 20..	" ..	0 40	'Maple Leaf'	" "	Delta Canning Co., Vic- toria, B.C.
17250	" 20..	" ..	0 35	'Snow Shoe'	Codville & Co.....	R. Ward & Co., Victoria B.C.

100 Samples of Canned Salmon—Continued

RESULTS OF ANALYSIS.						Condition of Fish and Color &c.	No. of Sample	Official Analyst's Remarks.
Metallic Contamination.			Preservatives.					
Copper.	Lead.	Tin.	Iron.	Borax.	Salicylic Acid.			
.....	None.	None.	Trace.	None.	None.	Odour good, flesh good colour and firm; can not corroded.	19361	Not adulterated.
.....	"	Trace.	"	"	"	Odour good, flesh rather light, firm and apparently in good condition; can not corroded.	19362	"
.....	"	"	"	"	"	Odour good, flesh good colour and firm, not corroded.	19363	"
.....	"	"	"	"	"	Odour good, flesh rather light colour, fairly firm; can not corroded.	19364	"
.....	"	None.	"	"	"	Odour good, colour normal, flesh firm; can not corroded.	19365	"
.....	"	"	"	"	"	Odour good, flesh good colour and firm; can not corroded.	19366	"
Accident tally lost for these	portion tests.	reserved	None.	"	"	Odour good, flesh very light coloured and rather soft, can not corroded.	19367	"
						Odour good, colour good, flesh firm; can not corroded.	19368	"
						Odour good, flesh rather light and not very firm.	19369	"
						Odour good, flesh firm and good colour; can not corroded.	19370	"
						Odour good, flesh rather light and not very firm.	19371	"
						Odour good, colour good, flesh firm; can not corroded.	19372	"
						Odour good, colour good, flesh firm; can not corroded.	19373	"
						Odour good, colour good, flesh firm; can not corroded.	19374	"
						Odour good, colour good, flesh firm; can not corroded.	19375	"
						Odour good, colour good, flesh firm; can not corroded.	19376	"
Very slight trace.	None.	None.	Trace.	"	"	Odour good, flesh rather light, firm and apparently good; can slightly darkened in spots.	19377	"
						Odour good, colour good, flesh fairly firm; can not corroded.	19378	"
Traces.	None.	None.	Trace.	"	"	Colour very pale.....	17245	Genuine.
						Colour pale, bitter taste....	17246	"
						Colour " pale, " unpleasant odour.	17247	"
						Of good colour and generally good quality.	17248	"
						Contents of tin much broken up and pale in colour, otherwise in good condition.	17249	"
						Contents of tin much broken up and pale in colour, otherwise in good condition.	17250	"

STATEMENT of the Results of Examining

No. of Sample.	Date of Collection.	Quantity Purchased.	Cost.	Name of Brand.	NAME AND ADDRESS OF	
					Vendor.	Packer as shown on Label.
	1900.		\$ cts.	<i>Official Analyst, E. B. Kenrick, Winnipeg.</i>	Winnipeg.	
17251	June 20..	3 cans..	0 35	Cooville & Co	Lowe Inlet Pkg. Co., Victoria, B.C.	
17252	" 20..	" ..	0 40	"	Packed at Lulu Island, B.C.	
17253	" 20..	" ..	0 35	"	The English Bay Canning Co., Vancouver, B.C.	
17254	" 20..	" ..	0 30	"	Bon Accord Fishery Co., B.C.	
17255	" 20..	" ..	0 35	"	Imperial Pkg. Co., Vancouver, B.C.	
17256	" 20..	" ..	0 40	John Morrin & Co	Victoria Canning Co., B.C.	
				<i>Official Analyst, Dr. C. J. Fagan, B.C.</i>	Vancouver, B.C.	
20196	" 20..	2 cans..	0 20	Welsh & Nightingale		
20197	" 20..	" ..	0 25	C. Uichida	C. G. Hobson & Co., Vancouver.	
20198	" 20..	" ..	0	J. Donald & Co	Goodmurphy Dinsmore Pkg. Co., B.C.	
20199	" 20..	" ..	0 20	E. Clayton		
20200	" 20..	" ..	0 20	Edgett & Co	Dunsmuir Island Canning Co., B.C.	
21501	" 20..	" ..	0 20	A. H. Keeping	Pacific Pkg. Co	
21502	" 20..	" ..	0 20	F. Filion		
21503	" 21..	" ..	0 25	W. H. Walsh	R. C. Canning Co	
21504	" 21..	" ..	0 25	McCracken & Beath	" "	
21505	" 21..	" ..	0 25	Mrs. Fleming	Wurzburg & Co., Vancouver, B.C.	
21506	" 21..	" ..	0 20	C. Mowat	Anglo American Canning Co.	
21507	" 21..	" ..	0 20	H. Harvey, New Westminster.	Columbia Pkg. Co	

100 Samples of Canned Salmon—Concluded.

RESULTS OF ANALYSIS.						Condition of Fish and Colour, &c.	No. of Sample	Official Analyst's Remarks.			
Copper.	Lead.	Tin.	Iron.	Borax.	Salicylic Acid.						
.....	Traces.	.....	.....	.....	Good colour and quality..	17251	Genuine.	
.....	"	" " "	17252	"			
.....	"	Contents of can in finely divided state and of a pale colour.	17253	"			
.....	"	Contents of tin rather broken up and of light colour.	17254	"			
.....	"	Of good colour and quality.	17255	"			
.....	"	Pale in colour and much broken up.	17256	"			
None.						Red salmon, sweet smell, in good condition.	20196				
Tin present											
None.											
.....	"	" " "	20197				
.....	"	" " "	20198				
.....	"	White salmon, no odour but not very fresh.	20199				
.....	"	Red salmon, sweet and fresh.	20200				
.....	"	Red salmon, stale.	21501				
.....	"	Red salmon, odour very bad, old fish, soft and broken down.	21502				
.....	"	Red salmon, in fair condition, odour slightly stale.	21503				
.....	"	Red salmon, sweet, firm and in good condition.	21504				
.....	"	White salmon trout, condition fair.	21505				
.....	"	Red salmon, sweet, fresh and in good condition.	21506				
.....	"	Red salmon, in good condition.	21507				